EXHIBIT F

Not Walking the Talk:
DuPont's Untold Safety Failures (2005)

NOT WALKING THE TALK:
Dupont's Untold Safety Failures

September 2005

Not Walking the Talk: DuPont's Untold Safety Failures

Over the years, DuPont has taken the history of progress regarding safety and health as its own. When advertising for the XVIIth World Congress on Safety and Health at Work, the company called itself one of the safest companies in the world claiming, "DuPont's focus includes finding solutions to protect people, property, operations and the environment."[1] And it states on its heritage website: "From the beginning DuPont has set an example for the chemical industry in waste reduction, pollution control and environmental conservation."[2] The company also touts a goal of zero work-related accidents.

Unfortunately, despite all the slogans, DuPont's history is not commendable. Instead of practicing openness and ethics, DuPont entrenches itself and resists taking responsibility for current and past trespasses, which continues to put citizens, the environment, and most of all, workers at risk. DuPont's safety program blames the worker for on-the-job hazards and its goal of zero accidents encourages a system of non-reporting.

DuPont talks the talk but in reality does not walk the walk. It continues to be one of the dirtiest and most dangerous companies in the United States, and maybe soon, in the world.

DuPont's True Record:

- Violations for failure to report industrial accidents to OSHA (see p. 8)
- One of the "Dangerous Dozen" for putting over 9 million people at risk (see p. 9)
- 20 Superfund sites (see p. 14) and thousands of sick plaintiffs (see p. 15)
- Number one producer of toxic dioxins in the U.S. (see p. 17)
- Sued by the EPA for withholding evidence showing potential harmful effects of its Teflon-chemical, C8 (p. 22)

DuPont points with pride to its corporate-wide pursuit of "Core Values." According to DuPont's own literature its Core Values consist of "ethics and integrity; workplace environment, treatment and development of people, strategic staffing (including diversity); and safety, health and environmental stewardship."[3] This report exposes DuPont's true record that violates these core values.

First, it is important to gain a better understanding of the role that DuPont Safety Training Observation Program (STOP), the company's behavioral-based safety program, plays in DuPont's approach to safety. STOP is grounded in the theory that almost all injuries are caused by worker unsafe acts and neglects many elements included in the National Safety Council's Hierarchy of Controls. DuPont earns about $100 million in revenues[4] by selling other corporations a program that only returns short-term results.

DuPont's actual record contradicts its claim to being one of the safest companies in the world.

[1] www.dupont.com. February 10, 2005. DuPont to Serve as Premier Sponsor of the World Safety Congress.
[2] www.heritage.dupont.com
[3] DuPont SEC Document DEF 14A-Proxy Statement. March 18, 2005.
[4] E. I. DuPont de Nemours. April 28, 2004. 2004 Annual Shareholders Meeting Transcript.

Even with STOP in place, accidents can and do still occur at DuPont facilities which have not only put workers but also the surrounding communities at risk. DuPont has also violated Occupational Safety and Health Administration (OSHA) regulations for failure to report accidents—falsely boosting its safety statistics. Sometimes when these accidents occur, the results can be catastrophic.

DuPont's lasting negative impact may be to the environment and public health. Juries throughout the U.S. have awarded individuals and communities hundreds of millions of dollars in settlements for the pollution of their living environments and the debilitating effects it has had on their health. In May 2005, the U.S. Department of Justice Environmental Crimes division opened an investigation concerning the company's handling of its Teflon-chemical, C8.[5]

From lead-products, radioactivity, dioxins and the Teflon-chemical, DuPont demonstrates a history of denial and deceit. As a Wilmington News Journal columnist opined, "When DuPont has gone to court in recent years, that's been the story time and again -- its unwillingness to swiftly come clean about potential risks posed by chemicals it uses or manufactures comes back to haunt its case."[6]

Citizens are demanding answers from the company for their cancers and other health ailments. Most importantly, what did DuPont know, when did it know it, and why were the secrets kept for so long. We have to wonder what cases will be brought against DuPont in the next ten, twenty, fifty years that will prove our health is being affected from DuPont's current mishandling of toxic chemicals.

Citizens in developing nations should take special consideration as to what chemicals DuPont is manufacturing in their countries. The company is expanding into new markets every day with its products and facilities. We have legitimate concerns about the health and safety of consumers and workers in these nations.

The United Steelworkers International Union (USW) and our membership take safety and accident investigation very seriously. Because of worker exposure to health and safety hazards, a USW member is killed on the job every 10 days. As workers, we're the ones on the frontline—most heavily-exposed to hazardous chemicals. Our union has a moral responsibility to speak out on behalf of our members, their families and our communities. We demand safer alternatives to both the chemicals we handle as well as the safety programs in which we work.

In fact, the USW could not think of a more inappropriate corporation to profit from the message of safety. When it comes to worker safety and protecting the environment, DuPont, under the leadership of CEO Chad Holliday, does not "Walk the Talk."

[5] Montgomery, Jeff. May 20, 2005. The News Journal (Wilmington, DE) . Feds seek DuPont records.
[6] Mascitti, Al. August 30, 2005. The News Journal (Wilmington, DE). In losing lawsuits, looks like DuPont has no one to blame but itself.

The Evolution of DuPont STOP

> *"Management's blame-the-worker programs are as dangerous to our members as any other challenge that we face today. The USW must oppose these programs with all our energy. Instead we must work just as hard to implement comprehensive health and safety programs that find and eliminate unsafe workplace conditions that cause injuries and illness to our members."* -- Leo Gerard, USW International President

What is a blame-the-worker safety program? These are programs that are implemented by management with the intent to decrease the number of reported injuries and shift responsibility for maintaining a safe workplace from management to workers. Blame-the-worker programs include:

- Behavior-Based Safety
- Safety Incentives
- Injury Discipline

The theory behind these programs is that almost all injuries are caused by worker unsafe acts. The programs attempt to eliminate injuries by reminding workers to work safely. Obviously, corporations concerned about mounting workers compensation cases, lost man hours due to injury and even loss of product cheered the arrival of a system that shifted focus away from the true culprits—management. DuPont currently enjoys profits of about $100 million annually from the sale of DuPont STOP.

Behavior based safety programs, such as the DuPont STOP program, have come in vogue over the last two decades. Companies and their well-paid sales marketing staff tout these ideas as new despite their foundation in the 1930's. These programs are very appealing to management because they make health and safety seem simple. It takes away the need for examining work areas for potential hazards and focuses attention on alleged worker carelessness and unsafe behaviors. Behavior based programs require very little management change because they claim that worker behavior is responsible for the majority of all accidents. This places the responsibility for a safe workplace on workers themselves. STOP focuses almost completely on correcting employee behaviors instead of abating hazards.

While STOP and other behavior based programs package their ideas as "new," they are all based on very dated approaches to health and safety. The origin of these programs lies with the research of insurance investigator H.W. Heinrich in the 1930's and 1940's.[7] Heinrich reviewed injury/illness records plant owners submitted to the insurance company. These records were primarily completed by supervisors which often blamed employees for workplace accidents. This method of reporting took the blame away from themselves and upper management.

Heinrich reclassified 15% of the records originally classified as unsafe conditions to unsafe acts. By adding that 15% to the 73% that were initially recorded as unsafe acts, he concluded that 88% of all industrial accidents were caused primarily by unsafe acts of persons. During the same

[7] Howe, Jim, CSP UAW Health and Safety Department. 1998. A Union Critique of Behavior Safety.

period of time the National Safety Council published a study that indicated that 87% of the industrial accidents were caused by unsafe acts and 78% by mechanical hazards.[8] (The National Safety Council study allowed cases to be classified with multiple causes.) One can conclude from the National Safety Council that many industrial accidents of this era involved recognized mechanical hazards.

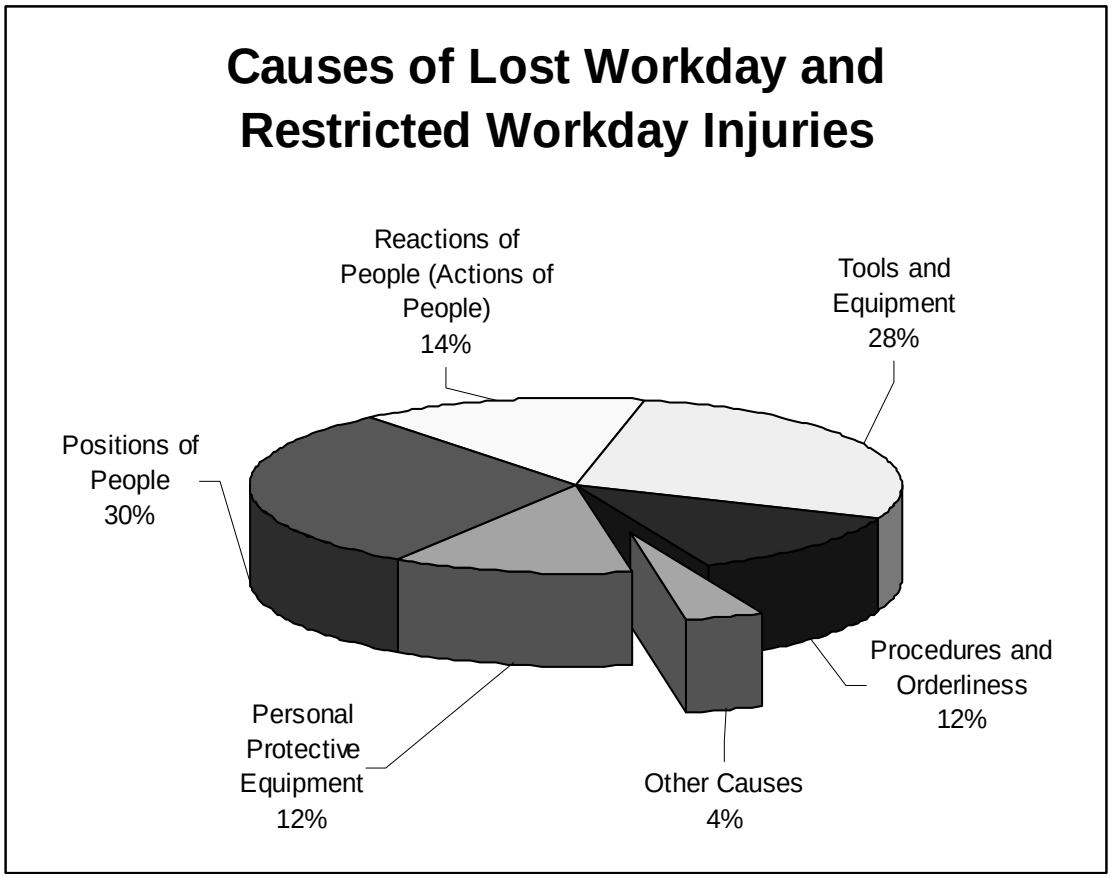
Heinrich	DuPont STOP	National Safety Council
Eighty-eight percent (88%) of all industrial accidents are caused by unsafe acts of people	Ninety-six percent (96%) of injuries are caused by unsafe acts; four percent (4%) by unsafe conditions	Eight-seven percent (87%) of industrial accidents were caused by unsafe acts and seventy-eight percent (78%) involved mechanical hazards

It is difficult to draw any accurate conclusions from Heinrich's research as the raw data supplied by supervisors was skewed in the company's favor. Despite this, companies such as DuPont continue to propagate Heinrich's flawed research as fact.

DuPont conducted its own study that seemed to "validate" Heinrich's research. The results of this ten year study reflected that unsafe acts caused or contributed nearly all workplace injuries. According to DuPont, the findings of this study "means that at-risk behaviors—not unsafe conditions—cause or contribute to most injuries. This is why STOP trains you to observe the "behavior of people."[9]

DuPont claims that the causes of lost workday/restricted workday injuries include "improper use of tools, actions of people, improper use of Proper Protective Equipment (PPE), procedures and orderliness, and positions of people." They find that only four percent (4%) of injuries are caused by factors other than human error.[10]

[8] Howe, Id.
[9] DuPont Safety Training Observation Program Manual. Stop For Safety. Revised 2000.
[10] DuPont, Id.



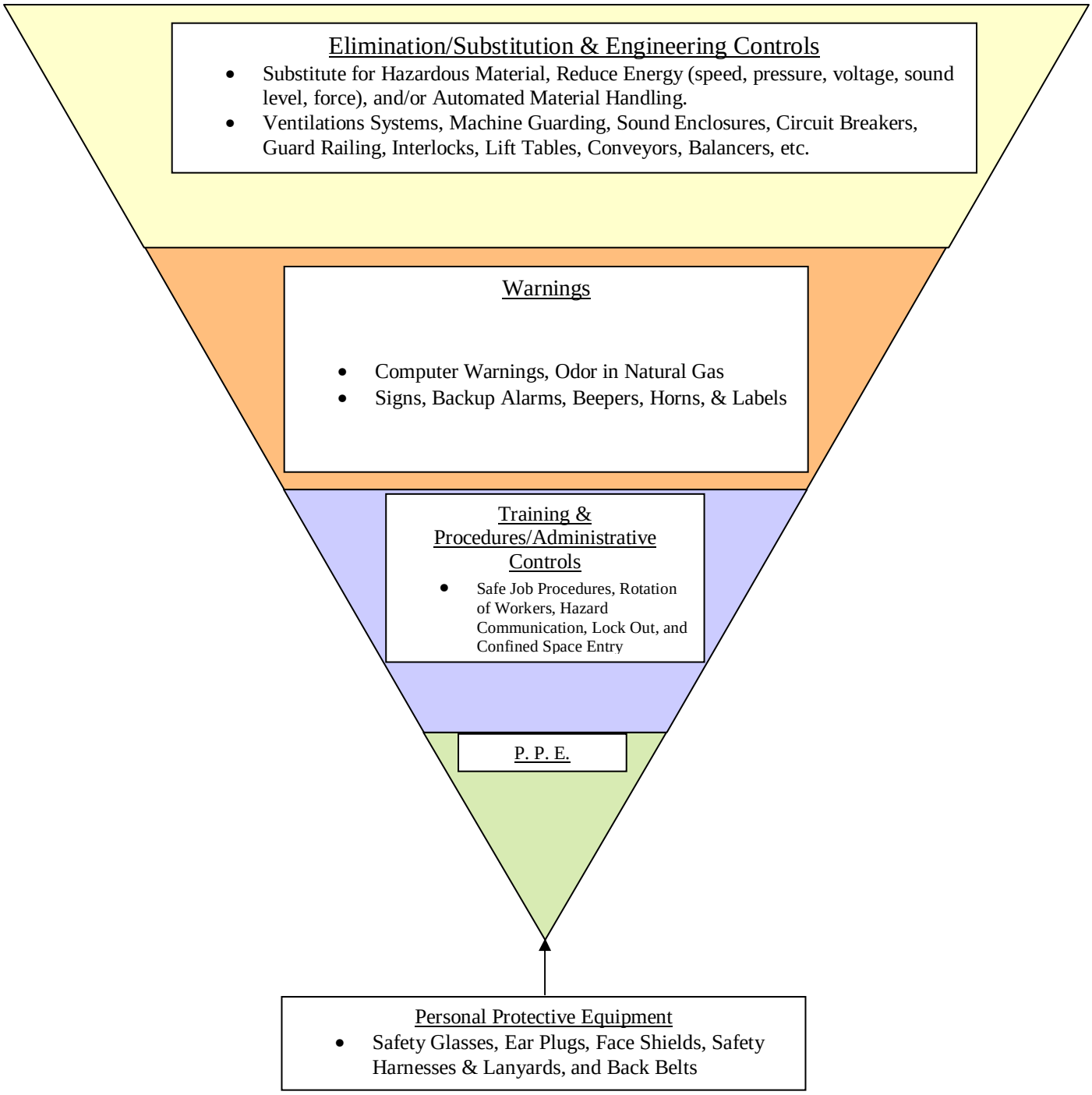
However, upon closer examination of the study, it appears to contradict itself in its blame-the-worker findings. The lack of management training its workers, poorly written/implemented safety policies, inadequately designed workplaces and improper tools or equipment for the job are true root causes for many of these accidents.

Workplace injuries and illnesses are caused by employee exposures to hazards. Hazards include any activity or product that produces risk. Even something as innocuous as water can present a hazard in the workplace if put under extreme pressure or temperature. The level of risk depends on the type of hazard present and the degree of exposure to the hazard.

The most effective method, according to many safety and health professionals, is to utilize the National Safety Council's Hierarchy of Controls. The hierarchy recognizes that eliminating hazards through substitution or design and engineering is much more effective than warning devices or personal protective equipment.[11]

[11] National Safety Council Study- Hierarchy of Controls. 1950.

National Safety Council Hierarchy of Controls



The Hierarchy of Controls is commonly accepted and can be found in most every competent manual on health and safety; it is not, however, mentioned or included in STOP. In fact, this hierarchy is so accepted that the United States Congress made it part of the law when it enacted the Occupational Safety and Health Act of 1970.[12] In addition to the OSHA standards, it can be found in military, European and International standards.

The Hierarchy of Controls is accepted on a worldwide basis outside of the proponents of behavior-based safety programs. These proponents do not accept it because it demands the use of higher level controls versus trying to correct the behavior of the worker. The Hierarchy demands detailed technical knowledge of exposures, hazards and standards. Trained safety and health professionals inherently begin at the top of the Hierarchy chart and move down, choosing the highest level of controls that are economically and physically feasible. When high level controls are not feasible or do not adequately reduce safety risks, lower level controls such as warnings, training and personal protective equipment must be utilized.

As we move down the Hierarchy chart, the methods of protection become less effective. This is primarily a result of the fact that it requires more effort on the part of both the supervisors and the workers. They must work to continually identify hazards and determine how to protect themselves from these hazards in the workplace.

Behavior-based safety programs take the hierarchy of controls and turn it upside down. These programs begin with observing workers and identifying their at-risk or "unsafe" actions and taking immediate action to correct their behaviors. These corrections generally involve wearing some type of personal protective equipment and following safety rules. This is the reverse of the National Safety Council's recommended hierarchy. Despite this "reversal," many plants do see positive results during the early phases of behavior-based safety programs where the workers are able to exert control of the programs and workers are suddenly interested in safety and health.[13] Motivational tool such as banquets, celebrations and awards help to keep worker morale up. The problem, however, lies in the fact that you are asking workers to evaluate the safety habits of their peers. Peer pressure plays a strong role. There is a serious risk that workers will not report injuries and accidents in order to avoid bringing their department or plant safety record down. In addition to this obvious problem, the acts of management personnel are exempt from scrutiny under behavior-based safety programs.

While programs such as STOP state that investigations should be independent of discipline, it is inevitable that employees will be disciplined for poor safety performance. Adding discipline to safety is not a new concept and the nature of behavior-based safety programs make it difficult to avoid blaming the worker for the accident.

When the USW investigates accidents, we search for root causes. What we find is very different from the unsafe acts that behavior-based safety proponents say cause accidents. We do not find unsafe acts as a prevalent root cause of accidents. The USW has tracked data on fatality investigations for 20 years. What we almost always find when we investigate catastrophic

[12] Howe.
[13] Howe, Id.

accidents, including fatalities, is that multiple root causes related to hazards and unsafe conditions, not multiple unsafe behaviors, cause the accident.

The greatest problem with behavior based programs is that by taking the "easy way out" of blaming the worker, true safety hazards continue to exist in the workplace, injuring and killing workers.

DuPont's Failure to Report

Indicative of the consequences of the behavior-based STOP program is perhaps DuPont's record of non-reporting. We have no real way of knowing how many accidents take place at DuPont's plants, but we know Occupational Safety and Health Administration has cited DuPont multiple times for failing to properly report worker injuries.

DuPont Failed to Record Injury

In July 2004, DuPont failed to record an on-site injury of an employee at its Niagara Falls, New York facility, according to OSHA. The effected employee suffered work-related injuries in November 2003 after inhaling chlorine gas. The employee needed immediate medical treatment and missed a month of work. The company was cited for its failure to list the event on its federal OSHA record-keeping log.[1]

DuPont Violated Record-Keeping Standards

In 1997 and 1998, DuPont failed to record 117 occupational injury and illness cases and recorded other cases incorrectly at its Seaford, Delaware plant, according to OSHA. At the time, DuPont faced a $70,000 fine and agreed to conduct a corporate-wide review of its injury and illness records over a five year period.[2]

DuPont Refused to Provide Health and Safety Information to Union

In June 2004, an National Labor Relations Board (NLRB) administrative law judge found DuPont violated federal law when it failed to provide health and safety information and access to its Niagara Falls plant to Paper, Allied-Industrial, Chemical and Energy International Union (PACE) representatives. The administrative law judge credited the union's testimony, noting, "There is sufficient evidence that the union complained of dangerous conditions." The judge found that DuPont knew of these complaints, "but either tried to avoid their existence or their seriousness or tried to avoid their being investigated by a trained expert as the union has requested."[3]

1 PACE International Union press release. July 12, 2004. DuPont cited by OSHA for violating record-keeping standards.
2 Alatzas, Trif. February 24, 1999. The News Journal (Wilmington, DE). DuPont plant to pay fine for records violations.
3 PACE International Union press release. June 8, 2004. ALJ finds DuPont violated Federal law.

Catastrophes Caused by Unsafe Working Conditions

DuPont understood catastrophe early in its existence when forty workers died in an 1818 explosion at the original gun powder facility in Brandywine, Delaware.[14] Throughout its 200 years many more DuPont workers have perished on the job, including 12 workers in an explosion at the Louisville, Kentucky facility in 1965.[15]

In its March 2004 research report titled "Irresponsible Care," the US Public Interest Research Group (US PIRG), a non-profit, non-partisan public interest advocacy group, analyzed data compiled by the National Response Center (NRC), the sole national point of contact for reporting oil or chemical discharges into the environment. The NRC database includes every accident and incident reported to the agency. From the time period of 1990-2003, DuPont ranked number three overall in accidents with 2,115—nearly 150 a year![16]

In a separate US PIRG research report, "The Dangerous Dozen," published in June 2004, the group analyzes the Risk Management Planning (RMP) reports through the Environmental Protection Agency (EPA). These RMPs determine "vulnerability zones," which are defined by the EPA as the maximum distance from the point of release of a hazardous substance in which the airborne concentration could reach the level of concern under specified weather conditions. DuPont is listed as one of the "Dangerous Dozen" by placing over nine million residents in potential danger if a chemical catastrophe were to occur.[17]

Accidents at DuPont facilities have occurred because of dangerous conditions that could have been more catastrophic than they were. The following cases were published in news articles and the media in recent years.

Sulfuric Acid Leak: DuPont was issued four citations for the October 11, 2004 leak of hundreds of pounds of sulfuric acid into the ground, water and air at its Wurtland, Kentucky facility.[18]

DuPont was cited for:

- failing to limit the number of people near the cracked pipe responsible for the leak
- not having back-up emergency staff
- failing to have emergency response employees wear protective breathing equipment during the spill
- having no designated safety officer

Meanwhile, DuPont faces several lawsuits from residents who claim the October spill made them sick. More than 75 residents of Greenup County have filed lawsuits in federal court against the

[14] Biography Eleuthere Irenee du Pont. Chemical Heritage Foundation. www.chemheritage.com
[15] Louisville Courier-Journal. October 26, 2003. History of Rubbertown.
[16] Purvis, Meghan and Bauler, Julia. March 2004. US PIRG. Irresponsible Care.
[17] Purvis, Meghan and Cassady, Alison. June 2004. US PIRG. The Dangerous Dozen.
[18] Musgrave, Beth. March 17, 2005. Lexington Herald Leader (Kentucky). DuPont Cited for Sulfuric Acid Spill in Kentucky.

company. Many of the people who claim they now have breathing and vision problems are first responders – fire, police and ambulance crews who evacuated people near the plant. [19]

VX Nerve Gas Spill: The US Army and DuPont have initiated a controversial plan for treatment of a deadly Cold War-era nerve agent known as VX at the DuPont Chambers Works plant in Deepwater, New Jersey.[20] In July 2005, about 30 gallons of a liquid containing VX spilled at the Army's Indiana chemical weapons depot. The spill happened during a process to destroy the nerve agent by converting it into a caustic chemical called hydrolysate. After the conversion process is complete, the chemical solutions will be transported to the Chambers Works plant for treatment and eventual disposal into the Delaware River. The plan has sparked widespread community opposition in New Jersey and Delaware and the spill, while not at a DuPont facility, still increased community concern about future risks.

Hydrogen Fluoride Toxic Cloud: In July 2003, the Justice Department and the EPA reached a $1.1 million settlement with DuPont in connection with Clean Air Act violations involving a May 1997 chemical release from DuPont's fluoroproducts plant in Louisville, Kentucky.[21] DuPont was unable to contain or block the release for approximately 40 minutes. During that time, approximately 11,500 pounds of hydrogen fluoride, escaped into the air.

The escaping hydrogen fluoride formed a toxic cloud of gas which migrated from the facility. As a result, several nearby chemical manufacturing plants were shut down and evacuated for several hours, and local public health and safety officials directed nearby residents and school children to stay indoors until the public health threat from the hydrogen fluoride abated.

Sulfur Dioxide Emissions: On June 25, 2003, DuPont was issued a citation by the EPA for several Clean Air Act violations at their Fort Hill sulfuric acid plant in Ohio when it increased sulfur dioxide emissions. Sulfur dioxide can cause acid rain and impair lung function.[22]

Violations included:

- not meeting federal new source performance standards for sulfuric acid plants
- not getting a permit to prevent significant deterioration of air quality
- failure to use best available technology to control sulfur dioxide emissions
- failure to get installation and operating permits
- failure to give permitting authorities all relevant information.

Ethylene Gas Escapes in Orange, Texas: In July 2005, as workers were engaged in periodic maintenance commonly called a turnaround at Sabine River Works plant, ethylene gas from a separator unit at the plant escaped from a pipeline and ignited in the air.[23] Seven people received what were described as minor injuries.

---

[19] Musgrave, Id.
[20] Associated Press. June 12, 2005. Nerve Agent Spills at Indiana Facility.
[21] Louisville Courier-Journal. July 31, 2003. U.S. Announces Clean Air Act Settlement With DuPont.
[22] U.S. Newswire. June 25, 2003. EPA Cites DuPont for Clean-Air Violations.
[23] Hopper III, Royal. July 29, 2005. The Orange Leader (Texas). No one injured in DuPont gas explosion.

Hazardous Products, Without Warnings? DuPont was one of four companies that were sued by 13 workers injured in a fire at the Malden Mills factory, Lawrence, Massachusetts. The blaze, which swept through the Malden Mills complex on December 11, 1995 leveled four buildings, and injured more than 30 people. It was one of the largest industrial fires in history. DuPont supplied material that fire investigators believe may have sparked the inferno. The case was settled December 13, 1999 for an unspecified amount.[24]

Leak Not Reported to Emergency Services: In October 2004, four contract employees were treated after a faulty pipe at DuPont Titanium Technologies in DeLisle, Mississippi released a chlorine cloud. According to emergency responders the cloud covered an area of about 200 feet, causing breathing difficulty and nausea for the four workers and required the plant to shelter the rest of the employees onsite. The leak occurred in a pipe that routes waste chlorine back into a line to be reused by the plant.[25]

The local fire coordinator was upset that plant officials did not report the release and injuries to him until an hour after the four were transported to the hospital by American Medical Response. Better communication, he said, would have made the whole thing a "non-news event."[26]

Catastrophes with a Lasting Environmental Footprint

DuPont's bragging—including bragging about a heritage of scientific breakthroughs and decreasing toxic releases into the environment—really comes down to "greenwash."

> **Greenwash:** "Disinformation disseminated by an organization so as to present an environmentally responsible public image," much like whitewash (Concise Oxford English Dictionary.)

After years of negative criticism over its environmental practices—in 1992, USA Today named DuPont among the top 15 "toxic offenders"—DuPont began to talk the talk. DuPont changed its slogan from "Better Things for Better Living" to "The Miracles of Science" in 1999 to portray its new desired image of being environmentally responsible. During the same period, many other companies altered their rhetoric to be appealing to the socially conscious. The top corporate offenders decreased reported toxic releases by high percentages. DuPont reduced its emissions by 73 percent from 1991 to 1996.[27] Even then, DuPont made the second-to-last percentage decrease out of the seven companies that made the most change, according to an EPA study.

When the headline reads, "DuPont makes $12.5m in donations in Rhode Island lead case,"[28] DuPont reads as a hero and a responsible corporate citizen, but in reality the donations are a

[24] Associated Press. December 14, 1999. Workers settle suit in Malden Mills fire.
[25] Harman, Greg and Fitzgerald, Robin. October 23, 2004. Biloxi Sun Herald (Mississippie). DuPont leak stirs concern near DeLisle; 4 treated.
[26] Harman and Fitzgerald, Id.
[27] Environmental Protection Agency. April 18, 2000. Assessments of the Incentives Created by Public Disclosure of Off-site Consequence Analysis Information for Reduction in the Risk of Accidental Releases.
[28] Ford, Brian. July 1, 2005. "DuPont makes 12.5m in donations in Rhode Island lead case." Chemical News & Intelligence.

public relations ploy, and another form of greenwashing. DuPont has settled out of a case that could have implicated the company for the continuous sale and marketing of a toxic product—in this case, lead-based paint—which it knew harms humans. In another recent case, under a settlement with the state, DuPont gave land to New Jersey. The company only donated as much as it had contaminated and some of the land included the groundwater contamination the company had caused. These types of "donations" offer DuPont "a chance to avoid litigation and to tout its concern for the environment," as an Associate Press journalist wrote.[29]

DuPont's greenwashing also comes in the form of rhetoric for "sustainable growth," an approach CEO Chad Holliday says should "promote and sustain economic prosperity, social equity, and environmental integrity."[30] However, DuPont's new and expanding environmental footprint has cost people jobs in struggling communities. When Luigino's, a food processing company, did not open a plant that would have hired 600 workers near DuPont's Parkersburg, West Virginia Teflon facility, it cited the reason: "Luigino's would have been using hundreds of thousands of gallons of potentially contaminated water each day for the production of frozen food."[31] Likewise, in an economically downtrodden, North Carolina town, where 2,000 skilled jobs were just lost, DuPont does not want to clean up the contamination caused by its former X-ray film plant to make the land developable for other businesses. DuPont is requesting immunity, which is currently against state law.[32]

Business growth, according to DuPont, includes creating "shareholder and societal value." However, this policy must have been lost on the company when it accrued $1.9 billion in legal battles that lasted over 10 years around crop destruction and birth defects allegedly caused by the company's fungicide Benlate (see p. 20). A legal battle, possibly just as costly, may be mounting through the equally-scandalous controversy over the Teflon-chemical, perfluorooctanoic acid (see p. 22).

DuPont has a long history of causing catastrophes with a lasting environmental footprint. Some problems take years to emerge. Continual denial of responsibility and greenwashing, may contribute to a repeat of history.

Toxic Products: DuPont Causes Lead Poisoning for Over 50 Years

Continuous use and marketing of toxic lead in paint and as a gas additive, called tetraethyl lead (TEL), has emerged as one of DuPont and the paint industry's earliest cover ups. Industry research from the 1920s that showed lead levels in humans were normal and harmless was revealed as deceptive in the 1960s.[33] Industry ignored other studies that demonstrated lead from

[29] Mulvihill, Geoff. July 11, 2005. "DuPont to preserve 1,900 acres in deal with NJ." The Associated Press State & Local Wire.
[30] DuPont Sustainable Growth 2001 Progress Report. www.DuPont.com
[31] Hunt, Spencer. May 22, 2005. C8 Concerns; Food-maker sues W.VA. over spoiled plant deal. Columbus Dispatch (Ohio).
[32] Rawlins, Wade. June 19, 2005. Deal could revive DuPont site; Swiss firm may reopen plant. But taxpayers might end up paying for pollution cleanup. The News & Observer (Raleigh, N.C).
[33] Kovarik, William. 1994. Charles F. Kettering and the 1921 Discovery of Tetraethyl Lead In the Context of Technological Alternatives. *Originally presented to the Society of Automotive Engineers, 1994. At:* www.radford.edu/~wkovarik/papers/kettering2.html.

flaking paint had serious effects on children, including brain damage and death. The New York Times reported in the 1920s, that more than 300 workers at DuPont's lead plant were poisoned by tetraethyl lead. "DuPont workers dubbed its Deepwater, New Jersey plant 'The House of Butterflies' because so many workers had hallucinations of insects."[34] And between 1923 and 1925, eight DuPont workers died from lead poisoning.[35]

News reports and warnings—such as one sent to Pierre S. DuPont describing TEL as "a creeping and malicious poison"—fueled a large well-crafted ad campaign by the industry.[36] DuPont began marketing TEL itself in 1948.[37] It continued to make both TEL and lead-based paints up until the 1970s and 1980s when lead was banned and phased out of use in both paint and gasoline in the U.S.

Prior to the lead phase out, the EPA estimated that as many as 5,000 Americans died annually from lead-related heart disease.[38] After the phase out, the mean blood-lead level of the American population has declined more than 75 percent, demonstrating that lead levels were not normal. However, the prolonged sale and use of lead has had its lasting effects.

Lead-based paint can still be found in older homes, often in poor, older neighborhoods. In Rhode Island, 80 percent of private homes and public buildings still have lead-based paint. And in 1999,[39] 14 percent of Rhode Island children were poisoned with lead, contributing to behavioral problems and brain damage.[40] The presence of lead-based paint has become a public nuisance for Rhode Island as well as for other states.

DuPont gave $12 million to lead-based abatement organizations as a deal to get out of the Rhode Island case against it and other companies.[41] But one case brought by a Wisconsin youth with mild-retardation still stands. One Wisconsin judge summed up the lead industry's cover up, now that it is faced with numerous lawsuits, when he stated that manufacturers "are essentially arguing that their negligent conduct should be excused because they got away with it for too long."[42]

---

[34] Environmental Research Foundation. March 27, 1997. History of Precaution Pt. 1. Rachel's Environment and Health Weekly #539. At: www.monitor.net/rachel/r539.html. Originally in Silas Bent, "Tetraethyl Lead Fatal to Makers," The New York Times, June 22, 1925.

[35] Kovarik, William. 1994. Charles F. Kettering and the 1921 Discovery of Tetraethyl Lead In the Context of Technological Alternatives. *Originally presented to the Society of Automotive Engineers, 1994. At:* www.radford.edu/~wkovarik/papers/kettering2.html.

[36] Kovarik, William, and Hermes, Matthew E. Fuels and Society B: 4. TEL Toxicity. Kennessaw State University. At: www.chemcases.com/tel/tel-17.htm. Also see: Kovarik, William. 2003. "Ethyl: The 1920s Environmental Conflict Over Leaded Gasoline and Alternative Fuels." Paper to the *American Society for Environmental History,* Annual Conference, March 26-30, 2003. Providence, R.I.

[37] www.heritage.dupont.com

[38] Kitman, Jamie Lincoln. March 20, 2000. The Secret History of Lead: Special Report. The Nation.

[39] Lewis, Richard. October 30, 2002. Foreman: Jury could not agree on lead paint's threat. The Associated Press State & Local Wire.

[40] Lord, Peter B. March 21, 2005. R.I. lawsuit against lead-paint makers postponed 5 months. The Providence Journal (Rhode Island). And, Forliti, Amy. June 19, 2003. R.I. to Retry Lead Paint Suit on April 5. Associated Press Online.

[41] Chemical Week. July 13, 2005. DuPont to Pay $ 12 Million to Settle Lead Paint Suit.

[42] Ross, JR. July 15, 2005. Court allows teen to sue lead paint manufacturers for his injuries. The Associated Press State & Local Wire.

Secret is Out: 40 Years Later Downwinders have Cancer

During the Cold War era, DuPont operated a nuclear plant in central Washington. Forty years later, workers and local residents learned they had been exposed to radioactive emissions. Children who had resided downwind from the plant have recently been awarded damages because they developed thyroid cancer as adults.

The Hanford facility, which DuPont helped build and operated from 1942 to 1946, converted uranium into plutonium for the core of nuclear bombs, such as the bomb dropped on Nagasaki, Japan.[43] Little was known about the Hanford site or its radioactive emissions until the Department of Energy released thousands of documents in 1986. This was the first time the public learned that radioactivity had been secretly released into the air and water. Included in the releases was radioactive iodine, I-131, which is linked to increased risks of thyroid disease and thyroid cancer.[44]

Some 14,000 downwinders—people who were born and raised under the prevailing winds that carried clouds of radiation—are believed to be at risk.[45] Thousands of downwinders have filed multiple suits against DuPont. Each case has included different claimants with leukemia or thyroid, stomach and colon cancer. Several cases have been dismissed. Some residents have received jury awards, like Mr. Stanton, a 60-year old with thyroid cancer. He summarized the issue in a Seattle Times article when he said, "…I think the principle of the thing is probably more important: that government and big business need to be more careful what they put out in the atmosphere that could hurt people."[46]

Superfund Sites

DuPont has 20 Superfund sites. Superfund[47] sites are the nation's worst toxic waste sites, contaminated by improper handling of waste and toxic materials, often spanning many decades.[48] Superfund sites undergo extensive evaluation to determine the posed risk and are then remediated. Sites that put people most at risk are placed on the National Priority List (NPL) and become eligible for long-term remedial action.

Two DuPont sites are currently on the NPL. Two DuPont sites have been taken off the NPL.[49] Many of the sites are former landfills and closed DuPont plants, but they may also include sites where hazardous materials have spilled and were then contained.

---

[43] Viele, Lawrence. July 12, 2000. DuPont, nuclear contractors sued for $100 billion. Pittsburgh Post-Gazette.
[44] Cornwall, Warren. May 20, 2005. Hanford likely caused cancer downwind, jury decides. The Seattle Times.
[45] Ashton, Linda. September 2, 1999. Judge limits claims in second downwinders lawsuit. The Associated Press State & Local Wire.
[46] Cornwall, Warren. May 20, 2005. Hanford likely caused cancer downwind, jury decides. The Seattle Times.
[47] Comprehensive Environmental Response, Compensation, and Liability Act of 1980
[48] Environmental Defense Fund. www.Scorecard.org
[49] Environmental Protection Agency. Superfund Information System at www.epa.gov/superfund/sites/cursites/

One of the Nation's Most Hazardous Sites: Newport, Delaware

DuPont's environmental footprint has been left in the form of 120-acres of landfill in Newport, Delaware, which EPA designated as a National Priority under the Superfund program.[50] During DuPont's 1929 to 1979 production years, the company dumped metals such as lead, cadmium, zinc, barium, mercury, and copper into two landfills and one wetland. After 15 years, the EPA and DuPont continue to remediate the site's soil and groundwater.

The site potentially threatens between 5,001 and 10,000 people who live within one mile of the site.[51] Those who once drank from wells placed within a 3-mile radius of the site may be especially threatened with organ damage, respiratory problems or cancer, which develop after long-term exposure to metals.[52] Water from the groundwater sources has since been banned. Now residents receive water from a DuPont-built line. DuPont also had to remove approximately 10,000 yards of wetland sediments (EPA), and cap both landfills— a $37 million investment. But the land is still off-limits for future development.

Cleanup Sites

Numerous other contaminated sites are not listed under the Superfund program. Sites requiring remediation can include brownfields, nonhazardous waste disposal facilities, and sites included under a state program. DuPont clean up sites (some that have been subject to litigation) include the following.

- ***More Newport pollution*:** DuPont is also paying for another site contaminated on the west side of Newport. The company is splitting a $52 million bill to clean up hazardous waste with creosote, which may increase the risk of skin, scrotum and lung cancer for potential workers and 3,500 people who live within a mile of the property. The EPA wants the waste excavated, put in a pile and contained. In a cost cutting measure, DuPont wants to leave the chemicals in the Hershey Run brook and wait for it to breakdown. However, the EPA remedial project manager pointed out, "When you're getting tens of thousands of parts per billion, it's so acutely toxic there isn't any chance for degradation to occur."[53]

- ***Lead in the soil and groundwater*:** In Washburn, Wisconsin, the EPA is testing to determine if the defunct DuPont site should be on the National Priority List (as of 2003). DuPont manufactured explosives from 1905-1971, and now they are paying for its clean up.[54]

[50] Montgomery, Jeff. May 28, 2002. Superfund site work nearly done. The News Journal (Wilmington, DE).
[51] EPA Superfund Information System, www.epa.gov/reg3hwmd/npl/DED980555122.htm
[52] Montgomery, Jeff. May 28, 2002. Superfund site work nearly done. The News Journal (Wilmington, DE).
[53] Montgomery, Jeff. October 7, 2004. EPA proposes $52 million cleanup of Newport site. The News Journal (Wilmington, DE)
[54] Environmental Protection Agency. 2003. DuPont Barksdale Explosives Plant Site. At: www.epa.gov/region5/sites/dupont/index.htm

- ***Asbestos, dioxins and cyanide liquids*:** DuPont is one responsible party cleaning up a former drum reconditioning plant that sparked a fire in 1994 in New Jersey.[55]

- ***First clean up was not enough*:** Contaminants at a Buffalo, New York site re-emerged after the site was declared clean in 1992. DuPont is paying $1.7 million for additional clean up that began in 2002.[56]

- ***Lasting Legacy at Calumet Grand River*:** Arsenic, lead, chromium, antimony, zinc and acid contaminated the area around DuPont's Chicago plant. In 1997, DuPont began to assess and then clean contaminants from past manufacturing. EPA was concerned about the hazardous chemicals in the 470-acre site's groundwater, sediment, nearby wetlands and Grand Calumet River. In 2002, DuPont agreed to pay $10.5 for more clean up of the river as part of a $56 million settlement between DuPont, seven other companies and Indiana state agencies. Studies have shown the releases contaminated the river's water and streambed, affecting migratory birds, fish, invertebrates and aquatic insects.[57]

- ***$2.3 million fine for a Clean Air Violation in New Johnsonville, Tennessee*:** In the EPA and the Department of Justice's complaint, "…the United States alleges that…DuPont failed to perform the required testing, reporting, recordkeeping, and repairs pursuant to enforcing recycling, emissions and reduction requirements involving ozone protection. As a result, nearly 9,000 pounds of refrigerant leaked into the atmosphere. The leaking of refrigerant from the IPRs and the comfort cooling appliances at DuPont's facility results in the depletion of the stratospheric ozone layer which causes an increased exposure to the sun's harmful rays. The harmful ultraviolet rays can cause skin cancer."[58]

***Public Health in Pompton Lakes, New Jersey*:** Residents who live near a closed Munitions plant in Pompton Lakes, New Jersey filed a lawsuit against DuPont six years ago for lead, mercury, arsenic and chemical solvent contamination from the plant. DuPont acknowledged "polluting the groundwater under the 600-acre site and an adjoining neighborhood, as well as tainting a nearby river and scores of backyards along the Acid Brook, which flows about two miles from the plant site to a lake, Pompton Lake. But the company said the well met drinking water standards."[1]

In 1997, DuPont settled with more than 400 residents for $38.5 million.[2] And, in 2003, DuPont agreed to provide lifetime medical monitoring for 1,500 current and former residents, and allow 166 of the sickest to argue for monetary damages in front of an arbiter.[3] In each case, DuPont claimed no wrongdoing.

1 Hanley, Robert. June 8, 2002. Three Women Awarded $380,000 for Illnesses Linked to **DuPont** Plant. The New York Times
2 Hughes, Jennifer V. March 23, 2003. DuPont settlement taking shape; Former, present Pompton Lakes residents affected, The Record (Bergen County, NJ)
3 Associated Press. June 21, 2003. DuPont settles pollution case with Pompton Lakes residents.

[55] Johnson, Jim. February 2, 2004. Firms agree to N.J. site cleanup. Waste News.
[56] Hughes, Diane E. August 3, 2002. New cleanup begins at DuPont site. Buffalo News (New York).
[57] Hazardous Waste Superfund Report. September 20, 2004. Eight firms will pay $60 million for restoration effort in Indiana. No. 32, Vol. 26; Pg. 312
[58] Department of Justice and Environmental Protection Agency. May 2, 2005. U.S. Announces Clean Air Act Settlement with DuPont in New Johnsonville, Tennessee. At: http://www.epa.gov/ozone/enforce/

Largest Producer of Dioxins

DuPont is the country's largest dioxin and dioxin-like compounds producer. The company's three US titanium dioxide, or TiO2, facilities top the list for disposal and release of dioxins among all US companies, according to the EPA Toxic Release Inventory (TRI) (see Top Ten chart). DuPont's unique process of heating and combing titanium ore with chlorine to make TiO2, a white pigment used in almost any product that is white—like toothpaste and the filling in Oreo cookies—produces dioxins as waste.[59]

Top Ten Chemical Facilities Disposing Dioxin and Dioxin-like Compounds On-site and Off-site (in grams), U.S. 2003

Ranked Facility	Total Disposal and other Releases (in grams)†
1. DuPont Edge Moor	41,097.7
2. DuPont DeLisle Plant	15,045.1
3. DuPont Johnsonville Plant	1,601.7
4. Kerr-McGee Chemical LLC	298.2
5. Millennium Inorganic Chemicals	100.5
6. Millennium Inorganic Chemicals	42.9
7. Eastman Chemical Co., Tennessee	10.3
8. PCS Nitrogen Fertilizer LP	4.1
9. DuPont Victoria Plant	1.8
10. BASF Corp.	1.4

Source: Environmental Protection Agency Total Release Inventory
† Rounded to the nearest tenth of a gram

Edge Moor, Delaware
According to the most recent EPA statistics, the Edge Moor plant disposed of 41,097 grams of dioxin-laden waste in 2003, which has gone into a unique off-site landfill owned by DuPont located on Cherry Island. Edge Moor TiO2 waste, often called Iron Rich has accumulated into a 500,000-ton pile in what Wilmington, Delaware residents

Dioxin is the common name used to refer to the chemical 2,3,7,8-tetrachlorodibenzo-p-dioxin or TCDD. Several hundred compounds that have similar structures and activity as dioxin are often commonly referred to as dioxin-like compounds or "dioxins." They include the polychlorinated dibenzodioxins (PCDDs), polychlorinated dibenzofurans (PCDFs) and some polychlorinated biphenyls (PCBs). TCDD is ranked as one of the worst compounds to ecosystems and human health. It is also a recognized carcinogen and developmental toxicant, and is bio-accumulative. Other dioxins range in toxicity. Sources: Scorecard.org, Cfsan.fda.gov and www.niehs.nih.gov

[59] LaFontaine, Ryan. August 15, 2005. 'Deathblow' for DuPont; Court's ruling damages company's case, Biloxi Sun Herald (Mississippi). And, Montgomery, Jeff. July 17, 2005. It's toxic, but DuPont wants it near homes; Capping waste pile at Edge Moor costs $5 million; moving it would cost $380 million. The News Journal (Wilmington, DE).

call their "backyard." The pile (which DuPont originally planned to sell as construction filler) was declared hazardous in 2001 by the EPA[60] because of the presence of hexachlorobenzene, manganese and arsenic, along with dioxins. Local residents want the pile of waste hauled off to South Carolina for incineration. DuPont wants to implement a more economical plan that calls for putting a tight cap on the pile, which DuPont says will be safer than transporting the material. But, government officials have been unable to agree on a plan of action. Citing this issue in his opinion piece, Mascitti states, "Unfortunately, DuPont's track record gives the public every reason to wonder if it will hear the whole truth about what it finds [in the pile]."[61]

De Lisle, Mississippi

Residents around the DeLisle plant (located near Pass Christian) do not face a pile of dioxins; instead, the toxic chemicals are released into their soil, water, air and fish in the St. Louis Bay.

At least 15 kinds of dioxins are in the environment surrounding the plant and near homes. Most recently, the most toxic form, TCDD, has been found in three parts of the plant, including a now-defunct fume disposal stack.[62] 1,995 residents have linked their various illnesses to exposure to the pollution from the plant and have filed lawsuits against the company. One cancer victim has already been awarded $14 million as a result of a lawsuit he filed against DuPont.[63]

During the lawsuit, residents and workers learned that the plant discharged harmful waste into the air when equipment was not properly maintained. A former DeLisle plant manager testified that the same fume disposal stack where

Waste Used as Filler is Toxic

When the EPA labeled the Edge Moor site hazardous, DuPont lost its prospects for selling the Iron Rich as construction-type fill for roads and landfills. DuPont once sold a product called Sierra-Crete, which was the Iron Rich of a now-defunct titanium dioxide plant in Oakley, California. About 10 years ago, residents of Contra Costa County, California noticed black ooze coming out of the cracks of their streets, ooze that would later turn white. DuPont announced that Sierra-Crete was laid below 36 miles of asphalt for roads in new housing developments, parking lots, and school playgrounds between 1989 and 1996.[1] The company also announced that the substance contained dioxins.

To the company, creating Sierra-Crete seemed like an environmentally safe way to use waste from the Oakley plant. After two lawsuits were filed with the Contra Costa County Supreme Court, a study determined those at highest risk for exposure to Sierra-Crete are road maintenance workers, and the product would cause seven additional cancers in 10 million people.[2] Eventually, in January 2005 DuPont agreed to pay about $11.5 million to seal and repair prematurely aging streets where the compound was used.[3]

1 Harper, Will. August 21, 2002. What Lies Beneath. EastBayExpress.com.
2 Ramsey, Jane. December 13, 2002. Dioxin risk low in East County. Contra Costa Times (California).
3. Montgomery, Jeff. July, 17, 2005. Miss. plant facing hundreds of lawsuits over toxins. The News Journal (Wilmington, DE).

[60] Montgomery, Jeff. July 17, 2005. It's toxic, but DuPont wants it near homes; Capping waste pile at Edge Moor costs $5 million; moving it would cost $380 million. The News Journal (Wilmington, DE).
[61] Al Mascitti, The News Journal (Wilmington, DE) Opinion Columnist. In losing lawsuits, looks like DuPont has no one to blame but itself.
[62] LaFontaine, Ryan. August 17, 2005. Dioxins likely released, Biloxi Sun Herald (Mississippi).
[63] Montgomery, Jeff. August 28, 2005. Pollution suit goes against DuPont; Miss. jury awards $14 million to waterman who got cancer. The News Journal (Wilmington, DE).

TCDD was found had been leaking since 1998 and remained in "un-repaired condition until recently."[64] The manager also testified that several 2,000-pound sacks of coke and ore exploded into clouds of dust in 2001. Only in August 2005 (after scientists were granted access to test at the site) did DuPont inform workers that they may have been exposed to TCDD, even though leaks occurred in 1998 and 2001.

New Johnsonville, Tennessee

DuPont's TiO2 manufacturing plant in New Johnsonville has paid millions in fines for violating the Clean Air Act, but it has yet to create a public outcry over dioxins. However, people have to wonder what will come of the waste DuPont has disposed of through deep well-injection. Since 1967 the company has been injecting waste in limestone formations more than a kilometer below the earth's surface.[65] This has also been practiced in Victoria, Texas, the ninth top emitter of dioxins in 1993.[66] DuPont has announced plans to stop or decrease deep well-injection, but after disposing waste into the ground for at least 30 years, not only is local water at risk, the site may be added to the DuPont Superfund list.

After a TiO2 Plant is Closed

DuPont closed a TiO2 plant in Oakley, California around 1997. State regulators discovered the soil and ground water at the site is contaminated with many contaminants proven to cause cancer in laboratory animals. Contaminants include CFCs and lead from the production of banned substances, Freon and tetraethyl lead.[67] The plant closing came two years after DuPont announced a program to expand their TiO2 capabilities.[68] As part of the program, the company planned to expand its Kuan Yin, Taiwan**,** plant from 60,000 tonnes to 88,000 tonnes. Currently, DuPont is making a deal to erect a $200 million TiO2 facility in the Shandong province in China, which is expected to employ 400 Chinese workers.[69] DuPont also has a TiO2 plant in Altamira, Mexico. DuPont's "extraordinarily dirty process" (using chlorine) once conducted in Oakley, may also result in dioxin contamination at these foreign sites and could soon be transferred to China.

Benlate: Product Contamination? Lack of Responsibility?

In the case of DuPont's fungicide, Benlate, the list of environmental, safety and cover-up violations abound, including:

- Prevalence of birth defects may be linked to Benlate exposure
- Toxic landfills where Benlate and contaminated soil have been dumped

[64] LaFontaine, Ryan. August 17, 2005. Dioxins likely released, Biloxi Sun Herald (Mississippi).
[65] Chatterjee, Pratap. August 22, 1996. Environment: DuPont, Asarco Top Polluters in the United States.
[66] Doyle, Thomas. January 16, 2005. Seadrift, Texas, chemicals plant is ranked one of top polluters in U.S., Victoria Advocate (Texas).
[67] California Department of Toxic Substances Control at www.dtsc.ca.gov.
[68] Polymers Paint Colour Journal. August, 1995. A global perspective on TiO2. FMJ International Publications.
[69] Sine, Richard. March 2, 2005. DuPont seeks to build chemical plant in China. The News Journal (Wilmington, DE)..

- Nation-wide destruction of farm crops and nursery plants[70]
- Ecuadorian shrimp farms destroyed by Benlate runoff
- Companies gone bankrupt[71]

In court cases and their annual report, DuPont has denied the product caused any ill-effects in humans or to the environment. The company has even been accused of committing fraud in a court of law. Denial of wrong-doing has lasted after more than 10 years of litigation. As the Orlando Business Journal[72] put it, in 1994:

> DuPont has remained adamant that Benlate is not the culprit in massive crop damage reported beginning in 1990 by growers in 40 states. The company is equally adamant that health-related complaints lodged by approximately 100 Florida growers are unrelated to Benlate use.

Even after DuPont has paid $1.9 billion[73] in settlements, jury awards and other court costs, 75 cases are still pending against the company, according to DuPont's quarterly report.[74] They involve either plant or shrimp farming damage; claims of fraud, misconduct and violation of racketeering laws; and two claims, to be heard soon, that Benlate caused birth defects.

A Florida Supreme Court has already upheld a verdict for a woman, who claimed exposure to Benlate while pregnant caused her child to be born without eyes.[75] While seven weeks pregnant, Donna Castillo had been inadvertently sprayed with the pesticide when walking by a fruit farm. Her son Johnny was born with empty eye sockets. After years of court proceedings, Johnny Castillo finally received $4 million from DuPont in 2003.[76] During the trial, it was shown that benomyl, the chemical ingredient of Benlate, caused birth defects in the eyes of rats. Even after evidence emerged the product caused birth defects in 40% of lab rats fed the product,[77] DuPont continued to sell Benlate until 2001.

In addition to benomyl, Benlate is believed to have been contaminated with another fungicide called flusilazole, which is toxic to embryos and not legal for sale. "Despite the fact that flusilazole was never legally registered for commercial sale in the United States, DuPont established guidelines for cross-contamination of flusilazole and Benlate, and, in some cases, requested that flusilazole-contaminated sugar be placed in batches of Benlate."[78] And in a letter to a manufacturer in 1988, DuPont states the active ingredient in flusilazole has "chronic liver toxicity and embryo toxicity characteristics, based upon long-term exposure.'"[79]

---

[70] Orlando Sentinel (Florida). December 15, 1994. Agriculture; and Smith, David. November 14, 1994. $10.65 million largest verdict. Arkansas Business Journal.
[71] Associated Press. November 26, 2003. Florida court reinstates Benlate damage suit against DuPont.
[72] Beall, Pat. November 25, 1994. Benlate contamination documented. Orlando Business Journal.
[73] Lewis, Sanford. April 27, 2005. The Shareholder's Right to Know More. At: www.DuPontShareholdersAlert.org.
[74] Form 10-Q. Filed with Securities and Exchange Commission, Aug. 5, 2005.
[75] Corporate Legal Times. November 2003. Circuit Roundup.
[76] Hoag, Christina. November 27, 2003. DuPont case to be retried. The Miami Herald. And, Cunningham, Laurie. July 17, 2003. Fla. Justices Grant Boy $4M in Benlate Case. Fulton County Daily Report.
[77] Barnett, Anthony. December 21, 2003. Eyeless children championed by Observer win $7m test case. The Observer, Guardian Newspapers Limited.
[78] Beall, Pat. November 25, 1994. Benlate contamination documented. Orlando Business Journal.
[79] Beall, Id.

Florida's Department of Environmental Protection (DEP) developed second thoughts to DuPont's assertion that Benlate material was not hazardous when they found out about the flusilazole. Florida's DEP now wish contaminated soil was not approved to be dumped in landfills.[80]

Despite the evidence, DuPont denies Benlate was ever contaminated. It wrote in its 1993 annual report: "Based on our science, we are convinced that our product did not cause any damage and that it is safe when applied at label rates."[81]

However, DuPont's cases to convince juries and judges that Benlate was safe have included withholding evidence[82] and possibly committing fraud, as some plaintiffs claim. In 1998, DuPont was sued for conspiring with the law firm Alston & Bird to commit fraud by manipulating tests.[83] A Georgia Judge also ordered the U.S. attorney for the Middle District of Georgia to investigate charges that DuPont committed wire fraud, witness tampering and mail fraud.[84] Before the judge could rule on the case, DuPont agreed to give $10 million for legal professionalism and ethics courses at four Georgia universities and $1 million for an annual legal symposium, plus legal fees.

DuPont's attempts to manipulate the judicial system include several other cases:

- In 1997, the Hawaii Supreme Court upheld the findings that "DuPont engaged in fraud and intentional misconduct," and acted "in bad faith, wantonly and for oppressive reasons" during product liability hearings in the state.

- In 1996, Miami-Dade Circuit judge found that DuPont committed discovery violations.[85]

- Courts in Delaware and Georgia also sanctioned DuPont for withholding evidence. A $100 million sanction was later reversed.

- $5 million penalty to pay for fees and costs for attorney's of Ecuadorian shrimp farmers in 1999. The judge found three main areas of violation: DuPont hid documents that showed Benlate does run off after application; the company denied the existence of any federally mandated reports to the EPA of alleged toxic impact from Benlate products; and DuPont denied requests that the company admit it did not test Benlate's suitability to the Ecuadorian environment.

[80] Beall, Pat. December 23, 1994. DEP to survey state landfills for Benlate. Orlando Business Journal.
[81] Form 10K, filed with the Security and Exchange Commission, for the year ended December 31. 1993, page 5.
[82] Chemical Week. June 14, 2000. DuPont loses Benlate consolidation bid.
[83] Mantius, Peter and Rankin, Bill. December 3, 1994. Law firm sued over DuPont case; Alston & Bird calls it 'old and cold' issue. The Atlanta Journal and Constitution.
[84] Pedreira, David. January 1, 1999. DuPont's $11 million endowment ends Benlate suit in Georgia. The Tampa Tribune.
[85] Ellman, Steve. July 8, 2003. DuPont slammed; Broward judge orders company to pay $5 million for improperly delaying shrimp farmers' Benlate suit. Broward Daily Business Review (Florida).

- The EPA filed a complaint against DuPont on September 30, 1999 "for the company's failure to report timely information about possible human adverse effects from its pesticide Benlate Fungicide."[86]

After years of lawsuits over Benlate, shareholders had finally had enough. After reviewing the company's Benlate disclosures, and the costly liabilities resulting from Benlate, shareholders alleged in a securities fraud class action that DuPont made false and misleading statements and omissions about Benlate 50 DF, with the effect of inflating the price of DuPont's stock. DuPont settled the suit for $77.5 million.[87]

Teflon-chemical

The Teflon-chemical story begins back in 1938 when DuPont chemist, Dr. Roy Plunkett, made an astounding discovery: the most slippery substance known to man.[88] In 1951, the company began making the substance, Teflon, at the Washington Works plant near Parkersburg, West Virginia by using ammonium perfluorooctanoate, or APFO, in the manufacturing process.[89] In 1962, the Food and Drug Administration (FDA) approved Teflon non-stick cookware for food contact.[90] Five years later, the FDA also approved Zonyl, a fluorotelomer, to be used on paper packaging.

Since then, industry studies have shown suspicion about the effects the Teflon-chemical has on workers. In 1981, DuPont began a study that showed 2 out of 8 Washington Works female workers had children with birth defects similar to those found in rats in another study.[91] In 2004, EPA sued DuPont for hiding both studies and evidence of drinking water contamination.[92] 3M stopped making APFO based on principles of "responsible environmental management" causing DuPont to manufacture APFO itself. Now, the EPA, communities around DuPont plants and consumers are concerned about the toxicity of a chemical that makes Teflon, a product that once provided so much convenience.

What is the Teflon-chemical?

The Teflon-chemical refers to perfluorooctanoic acid (PFOA) and its salts – its salts including APFO. Whereas Teflon and other fluoropolymers are made with APFO, fluorotelomers, such as Zonyl, are not made with APFO but break down into PFOA during the manufacturing process. PFOA, the acid, and its ammoniums and salts, are all often called C8 to make things easier. C8

[86] Environmental Protection Agency. October 14, 1999. Complaint Against DuPont for Not Alerting EPA of Possible Adverse Effects of a Pesticide. EPA Newsroom.
[87] Lewis, Sanford. April 27, 2005. The Shareholder's Right to Know More. At: www.DuPontShareholdersAlert.org.
[88] Cortese, Amy. November 2003. DuPont's Teflon Dilemma. How Chad Holliday, the champion of sustainability, is managing an environmental challenge. *Chief Executive*. Vol. 193.
[89] Hawthorne, Michael. February 16, 2003. Internal Warnings. Industry memos show DuPont knew for decades that a chemical used to make Teflon is polluting workers and neighbors. Columbus Dispatch (Ohio).
[90] Goldblatt, Jennifer and Biddle, Fred. February 23, 2003. Is there a danger in the air for cooks? DuPont says kitchen temperatures are not hot enough to release harmful fumes. The News Journal (Wilmington, DE).
[91] Environmental Working Group. "PFCs - A Family of Chemicals That Contaminate The Planet." At: www.ewg.org
[92] Ward, Ken Jr. Sept. 10, 2004. DuPont agrees to pay $107 million; Wood county plant also must help reduce C8 in drinking water. Charleston Gazette (West Virginia).

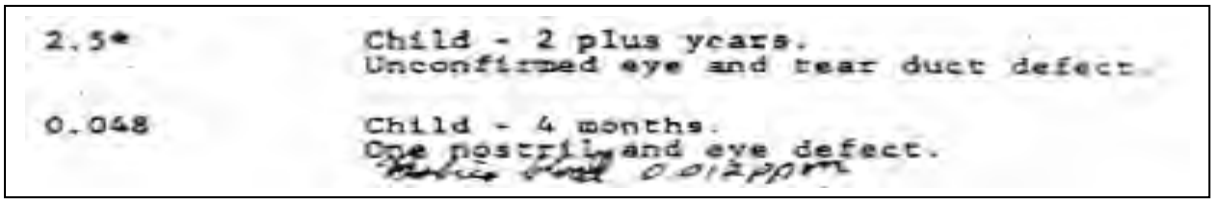
represents an 8 carbon chain, which is why this chemical is of concern to the scientific community.[93]

Why is this of concern? The 8 carbon chain has fluoride legs attached to it. When fluoride refuses to bind to anything else but itself, it creates a slippery surface. However, it also creates one of the toughest bonds in the world, which is devastating to the environment and possibly to humans. C8 never biodegrades in the environment.[94] In humans it has a half-life—that it is, half the amount in our bodies remains—for 4.4 years, by recent estimates.[95]

The scientific community, mainly the EPA, is concerned it may be a carcinogen. In February, an independent scientific advisory looked at all the research the EPA had collected on C8, and came to the tentative conclusion that C8 is a "likely" carcinogen in humans.[96] Which, according to the EPA's carcinogen scale, "likely" is a lot closer to being a carcinogen than the previously stated "probable." A fact the EPA will acknowledge is that C8 is "definitively" a carcinogen in animals.[97] Lab animals, rats and monkeys have developed liver, testicular, mammary and pancreatic tumors after being exposed to C8.

Birth Defects in DuPont Plants

Lab animals also have high prevalence of birth defects when mothers are exposed to C8. And there is evidence that has linked C8 to birth defects in humans, especially in pregnant workers at DuPont plants. In 1981, two of eight female employees who handled C8 at DuPont's Washington Works, West Virginia facility had children with birth defects. DuPont found this evidence in a preliminary survey after learning from its C8 supplier at the time, 3M, that rat pups had a high prevalence of eye birth defects after their mothers were exposed to C8.[98] The two children in the worker study also had defects in their eyes; one of the children was also missing a nostril.


2.5* Child - 2 plus years. Unconfirmed eye and tear duct defect.

0.048 Child - 4 months. One nostril and eye defect.

Even though these findings provided evidence that C8 "presents a substantial risk of injury to health or the environment," DuPont did not report the information to the EPA as is required

[93] Environmental Working Group. "PFCs - A Family of Chemicals That Contaminate The Planet." At: www.ewg.org. And, EPA. Basic Information on PFOA. At: www.epa.gov/opptintr/pfoa/pfoainfo.htm#concerns

[94] Environmental Protection Agency. Basic Information on PFOA. At: www.epa.gov/opptintr/pfoa/pfoainfo.htm#concerns

[95] Burris JM, Lundberg JK, Olsen GW, Simpson D, Mandel JH. 2002. Interim report: Determination of serum half-lives of several fluorochemicals. AR226-1086. Washington, DC: U.S. Environmental Protection Agency.

[96] Eilperin, Juliet. June 29, 2005. Compound in Teflon a "likely carcinogen. The Washington Post.

[97] Environmental Protection Agency. January 2005. Draft Risk Assessment of the Potential Human Health Effects Associated with Exposure to Perfluorooctanoic Acid and its Salts. Office of Pollution Prevention and Toxics.

[98] Environmental Working Group. "PFCs - A Family of Chemicals That Contaminate The Planet." At: www.ewg.org.

under the Toxic Substances Control Act (TSCA).[99] EPA did not learn that C8 had traveled from mother to child, as the DuPont study showed, until over 20 years later.

"Significantly Higher" Prevalence of Birth Defects

In a sworn statement in 2004, former DuPont medical doctor, Bruce Karrh, reported that DuPont epidemiologist Bill Fayerweather had proposed to do the 1981 survey of female Washington Works employees.[100] By Fayerweather's estimates, two out of eight children born with birth defects was "significantly higher" than that of the general population. Karrh had asked a DuPont doctor to look into the matter: "…He came back to me and said he was satisfied that it was not workplace related." Yet, Karrh does not know how the doctor made that decision to drop the study. No one prepared a written report.

When asked why DuPont did not report the data about human birth defects. Karrh answered, "If you reported every little thing because it wasn't - just because it very possibly a thousand years from now could be, then you'd lose the whole purpose of it."[101]

DuPont Does Not Tell the EPA or Communities

On or about June 14, 1984, DuPont also found C8 in West Virginia and Ohio tap water near the Washington Works plant,[102] the same plant where Teflon is made and female workers had children with birth defects. DuPont disposes of waste from the plant in the Dry Run Landfill. Until recently, the landfill was unlined and polluting the soil, ground water and drinking wells with C8. Not until a local farmer sued DuPont for polluting Dry Run Creek and killing 280 cows in 1999 did the community begin to learn the extent of its drinking water contamination.[103] Even though levels exceeded DuPont's original "community exposure guideline" of one parts per billion (ppb), the company did not tell residents or the EPA about the contamination for up to 20 years[104].

Residents in neighboring communities now drink only bottled water, as per the suggestion of a Pennsylvania scientist.[105] (Water purchases are reimbursed by DuPont.) Residents await more studies to determine if a link between disease and the C8 contaminated water exists. If it does exist, DuPont will have to pay $235 million for medical monitoring as part of the settlement of a class action suit brought about by 50,000 to 80,000 residents.[106] DuPont has already paid $107.6 million as a result of the settlement.

---

[99] Environmental Protection Agency. July 8, 2004. EPA Takes Enforcement Action Against DuPont For Toxic Substances Reporting Violations. EPA News Room.

[100] Ward, Ken, Jr. July 10, 2005. DuPont proposed, dropped '81 study of C8, birth defects. Charleston Gazette (West Virginia).

[101] Ward, Id.

[102] Environmental Working Group. "PFCs - A Family of Chemicals That Contaminate The Planet." At: www.ewg.org.

[103] Cortese, Amy. November 2003. DuPont's Teflon Dilemma. How Chad Holliday, the champion of sustainability, is managing an environmental challenge. *Chief Executive*. Vol. 193.

[104] Hawthorne, Michael. February 16, 2003. Internal Warnings. Industry memos show DuPont knew for decades that a chemical used to make Teflon is polluting workers and neighbors. Columbus Dispatch (Ohio).

[105] Newsinferno.com. August 22, 2005. Major Study Warns People to Avoid Drinking Water Tainted with Teflon-Related Chemical. And, Hrach, Tom. August 23, 2005. Free bottled water available for reimbursement from DuPont. The Marietta Times (Ohio).

[106] Ward, Ken Jr. Sept. 10, 2004. DuPont agrees to pay $107 million; Wood county plant also must help reduce C8

Fayetteville, North Carolina

C8 has now been found in groundwater beneath the only U.S. facility that makes it. The high-tech $23 million plant is located next to the Cape Fear River in Fayetteville, North Carolina. C8 contamination of groundwater at the North Carolina plant was quietly reported to the EPA in March 2003, only months after DuPont's new "APFO Plant" began operating.[107] That same month DuPont assured the local newspaper that its chemical process was safe, claiming to have spent $7 million dollars on environmental controls and safeguards to keep C8 or component materials from leaking into the air or water. DuPont did not tell the public that its "leak-proof" C8 plant was already leaking.

In addition, when DuPont applied for the North Carolina C8 plant's air pollution permit in August of 2001, the company asked that there be no inspection or maintenance requirements for its scrubber, the APFO plant's main pollution control device. Currently, the environmental permits for the Fayetteville plant do not require monitoring or reporting of C8 discharges to the air or to surface waters.

DuPont workers in Fayetteville sampled water in four monitoring wells. C8 was found in trace amounts in three of the wells and at a higher level in the fourth, according to a report DuPont provided to state environmental staff. Limited testing of monitoring wells is being conducted for C8 pursuant to an agreement with the EPA. Sampling of the seepage from the sides of the channel leading to the Cape Fear River for C8 is only in the planning stage. The extent of C8 contamination beneath the facility has yet to be determined.[108]

DuPont officials say the chemical did not come from the new $23 million building where it is produced but from a leaking cement cistern beneath another building.[109] Plant officials said the two tests pointed them to the source: an underground concrete waste storage vault, or sump, underneath the plant where Nafion is produced. Nafion is a brand name for a fluorinated polymer, which is most likely made with telomer alcohol, although DuPont has not confirmed this. The company has said the C8 might be a breakdown chemical left after other chemicals biodegraded.[110]

DuPont officials never fully explained why the contamination occurred only two or three months after DuPont began making C8 at the Fayetteville plant.

Circleville, Ohio

"Frankly, we don't believe we're going to get all the information we need," Mary Ellen Weber, a director in the US EPA pollution prevention and toxics office, said about detecting C8 in water sources of yet another plant, Circleville, Ohio.[111] DuPont had failed to report evidence of C8 in wells near the plant because C8 levels fell below a detection level the company set, instead of measuring the pollution at the lowest detection levels, as is the EPA's standard practice.

---

in drinking water. Charleston Gazette (West Virgina).

[107] Based on USW research of North Carolina state documents

[108] Landis, Nomee. May 26, 2005. DuPont monitors chemical pollution. The Fayetteville Observer (North Carolina).

[109] Landis, Id.

[110] Landis, Id.

[111] The Associated Press. August 17, 2005. U.S. EPA finds C8 in drinking water near Circleville.

Ohio EPA records show C8 was found in wastewater tests DuPont conducted in July and in October 2004, including one lagoon that drains to the Scioto River with levels ranging between 8.1 and 9.8 parts per billion.[112] Levels in wells used by the Little Hocking Water Association, now receiving bottled water because DuPont polluted its water, were 1.7 to 6.2 parts per billion in 2002.[113] DuPont waited nine months to tell invited groups of area residents that C8 had entered the water and the air.[114]

Conclusion

Will DuPont repeat the story of lead and Benlate with the Teflon-chemical?

- Even though scientific evidence attributed deadly health effects to lead in paint and gasoline, DuPont denied there was anything wrong with lead levels in humans and used its own science to deny the prevalence of poisoning in children. After over 50 years of selling tetraethyl lead for gasoline, DuPont writes on its heritage website, "Tetraethyl lead is an extremely toxic substance."[115]

- Even after plant devastation, bankrupt businesses and birth defects attributed to Benlate, the company still denies anything was ever wrong with the fungicide. Yet, the company stopped selling all varieties of Benlate in 2001.

- About the Teflon-chemical, C8, DuPont writes, "Based on existing scientific data, DuPont believes that PFOA [or C8] exposure does not pose any health risk to the general public."[116]

But, like in the above cases, the scientific community is finding reason to believe C8 is hazardous to our health. Testing of workers who once made the chemical by 3M found workers were more likely to die or seek treatment for cancers in the reproductive tract and have weakened immune systems.[117] DuPont disagrees there is evidence C8 may be toxic to humans, although the company concurs with the EPA that it is toxic in animals. DuPont writes there are no health effects even in workers who have "significantly higher exposure levels than the general population."[118] Yet, DuPont has announced it will reduce its use of C8 in Teflon products and reformulate telomer products, such as those that go on our clothes and carpeting, by the end of 2006.

The USW hopes DuPont is right this time and there are no negative health effects of C8 – for workers and for community members around its plants.

---

[112] The Associated Press. Id.
[113] Hunt, Spencer. August 10, 2005. Chemical Found at Circleville Plant Site. The Columbus Dispatch.
[114] The Columbus Dispatch (Ohio). Aug 11, 2005. C8 test data secret for months. DuPont revealed in April that EPA had it run tests for chemical in '04
[115] www.heritage.dupont.com
[116] www.pfoa.dupont.com
[117] Environmental Working Group (EWG). 2003. PFCs: A chemical family that contaminates the planet. Available online at ***http://www.ewg.org/reports/pfcworld/***
[118] www.pfoa.dupont.com

DuPont's recent record does not give this hope promise. DuPont has created the most dangerous sites in the country and the pollution continues to make thousands of people sick. Even though the company is growing and expanding in markets in foreign countries, the polluted lands it leaves behind are un-developable and un-livable. DuPont's policy for sustainable growth is just greenwashing.

Denial and non-reporting seems to be the true walk of a company with so much talk. DuPont's current safety program under the name STOP encourages a system of non-reporting by blaming the worker and relinquishing management of responsibility. Harmful conditions result, and catastrophes at DuPont plants are catastrophes for workers and the public.

DuPont's true record is not an example of a corporation others should model in order to meet sustainable development and safety goals. DuPont must drastically change its performance and its course of direction to gain back the public's confidence.